

Application No.: 10/815,054
Docket No.: UC0419USNA

Remarks

The following remarks are responsive to the Examiner's rejection in the Office Action dated November 29, 2007.

Status of the Claims

Claims 1-8 and 11-23 are pending. Claims 1 and 18-23 are amended herein. Claims 9 and 10 are canceled. The claims stand rejected under 35 U.S.C. § 102.

Claim Amendments

Claims 1, 18, and 22 are amended to incorporate the subject matter of Claim 10, now canceled. No new matter is introduced.

Claims 19-21 are amended to include the language of Claim 18, from which they depend. No new matter is introduced.

Claim 23 is amended for clarity. Support for this can be found at page 9, lines 11-12. No new matter is introduced.

Claims Rejections – 35 U.S.C. § 102

Claims 1-22 stand as rejected under 35 U.S.C. § 102(b) as being anticipated by each of four different references: Parker et al., U.S. published application 2002/0036291 ("Parker"); Zhang, U.S. published application 2002/0031602 ("Zhang"); Schwark et al., U.S. published application 2003/0025106 ("Schwark"); and Tahon et al., U.S. Patent 7,108,805 ("Tahon").

Applicants' claims, as amended herein, are drawn to a composition comprising a non-aqueous dispersion (as recited in Claim 1 and the claims dependent thereon), and to a method for making the non-aqueous dispersion (as recited in Claims 18 and 22, and the claims dependent thereon). The non-aqueous dispersion comprises (i) at least one conductive polymer doped with at least one anion and (ii) at least one colloid-forming polymeric acid comprising a fluorinated polymeric sulfonic acid. The method comprises one of (a) dispersing doped conductive polymer solids in a non-aqueous dispersion of colloid-forming polymeric acid comprising a fluorinated polymeric sulfonic acid; (b) dispersing colloid-forming polymeric acid solids comprising a fluorinated polymeric sulfonic acid in a non aqueous dispersion of doped conductive polymer; and (c) combining a non-aqueous dispersion of doped conductive polymer with a non-aqueous dispersion of colloid-forming polymeric acid comprising a fluorinated polymeric sulfonic acid.

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In every claim the colloid-forming polymeric acid comprising a fluorinated polymeric sulfonic acid is present.

Applicants respectfully submit that none of the above cited references teaches or suggests a colloid-forming polymeric acid comprising a fluorinated polymeric sulfonic acid.

Parker discloses a multilayer structure having a high conductivity organic layer and a low conductivity organic layer. The low conductivity layer can be a conductive polyaniline, polypyrrole, or polythiophene further blended with a non-conductive bulk polymer (paragraph [0076]). There is no mention of colloid-forming polymeric acids being added to the doped conductive polymer, and particularly no mention of a fluorinated polymeric sulfonic acid. The specific bulk polymers disclosed (paragraph [0129]) are primarily water soluble and are not acids. With respect to conductive polyaniline, there is discussion of a functionalized protonic acid (paragraph [0102] through [0121]). However, this is a dopant. Furthermore, no colloid-forming polymeric acids are disclosed even as dopants.

Zhang discloses a thermal treatment of a polymer buffer layer. A low conductivity blend of conductive polymer and non-conductive polymer may be used to form the buffer layer. The low conductivity layer can be a conductive polyaniline, polypyrrole, or polythiophene further blended with a non-conductive bulk polymer (paragraph [0068]). There is no mention of colloid-forming polymeric acids being added to the doped conductive polymer, and particularly no mention of a fluorinated polymeric sulfonic acid. The specific bulk polymers disclosed (paragraph [0120]) are primarily water soluble and are not acids. With respect to conductive polyaniline, there is discussion of a functionalized protonic acid (paragraph [0094] through [0112]). However, this is a dopant. Furthermore, no colloid-forming polymeric acids are disclosed even as dopants.

Schwark discloses coating compositions for preparing imaging elements. The coating composition comprises a thiophene-containing electrically-conductive polymer in an organic solvent and optionally a film-forming binder. Poly(3,4-ethylenedioxythiophene) is specifically cited with polyanions of polymeric carboxylic or sulfonic acids, particularly polystyrenesulfonic acid and polyacrylic acids, as dopants (paragraph [0034]). Examples of film-forming polymeric binders are given in paragraph [0044]. However, none of the materials listed as a binder is a colloid-forming polymeric acid, and particularly no material that comprises a fluorinated

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polymeric sulfonic acid.

Tahon discloses a method of preparing a non-aqueous dispersion of a polythiophene by adding a solvent to an aqueous dispersion and heating to remove the water. This is not the same as any of the methods recited in Applicants' Claim 18, as discussed above. Tahon discloses at column 10, line 5, to column 12, line 4, that binders may be added. However, there is no teaching or suggestion of a binder comprising a fluorinated polymeric sulfonic acid.

In summary, none of the above four references teaches or suggests the specific composition of a non-aqueous dispersion including a doped conductive polymer and a colloid-forming polymeric acid comprising a fluorinated polymeric sulfonic acid, as recited in Applicants' Claim 1, and all the claims dependent thereon. Furthermore, none of the above four references teaches or suggests a method of forming a non-aqueous dispersion of a doped conductive polymer and a colloid-forming polymeric acid comprising a fluorinated polymeric sulfonic acid, as recited in Applicants' Claims 18 and 22, and all the claims dependent thereon. Applicants respectfully submit that these rejections have been overcome and request that they be withdrawn.

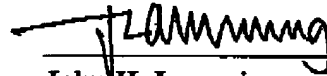
Conclusion

In view of the foregoing amendments and remarks, Applicants submit that the above referenced application is in condition for allowance. A Notice of Allowance for the pending claims is earnestly requested.

Should there be any questions about the content of this paper or the status of the application, the Examiner is invited to call the undersigned at the telephone number listed below.

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Respectfully submitted,



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